



U.S. ARMY CHEMICAL MATERIALS AGENCY

Pine Bluff Explosive Destruction System (PBEDS)

PBEDS Mission

The Explosive Destruction System (EDS) provides on-site treatment of chemical warfare materiel in a safe, environmentally sound manner. The EDS currently operates at Pine Bluff Arsenal (PBA), Ark., destroying the largest known inventory of recovered chemical warfare materiel (RCWM). PBA workers discovered RCWM on post during arsenal environmental restoration or recovery activities in the 1980s.

The U.S. Army Non-Stockpile Chemical Materiel Project (NSCMP) began operations at the Pine Bluff EDS (PBEDS) fixed facility in June 2006 to destroy approximately 1,200 munitions, such as 4.2-inch mortars, as well as German Traktor rockets, that were captured during World War II.

Munitions are placed in a Fragment Suppression Shield (FSS) before being placed inside the EDS. The EDS uses cutting charges to explosively access chemical munitions, eliminating their explosive capacity before the chemical agent is neutralized. The system's main component, a sealed, stainless steel vessel, contains all the blast, vapor and fragments from the process. Treatment is confirmed by sampling residual



The Non-Stockpile Chemical Materiel Project's Explosive Destruction System can treat up to six chemical warfare materiel items simultaneously. The system contains all blast, vapor and metal fragments from the items, protecting the surrounding environment and its operators.

liquid and air from the vessel prior to reopening the EDS. The EDS is available in two sizes. The EDS 1 can treat up to three rounds at a time, while the EDS 2 can process up to six rounds at once, enabling the Army to treat more items in less time while maintaining high levels of safety and efficiency.

Faster, more efficient, less waste

The PBEDS unique inventory of recovered munitions motivated NSCMP's research and development team to develop cutting edge



Three separate Environmental Enclosures were erected to house the transportable Explosive Destruction System units. The facility is known collectively as the Pine Bluff Explosive Destruction System, or PBEDS.

For more information,
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(continued)



The Advanced Fragment Suppression System, extensively tested at Sandia National Laboratories, was fielded for the first time at Pine Bluff Arsenal, Ark.

processes and vessel enhancements, including the Advanced Fragment Suppression System (AFSS). In contrast to the original FSS, a solid steel piece replaced after each individual treatment, the AFSS consists of steel bars weighing 17 pounds each. The bars are held in a cradle designed to ensure complete protection of the EDS vessel during destruction of the munition.

The AFSS, first used at PBEDS, reduces up to 500 pounds of solid waste per treatment. Because individual damaged rods can be replaced, this cost effective system can be reused indefinitely. The AFSS also greatly increases safety for the PBEDS crew by reducing lifting challenges, increasing efficiency of operations.

NSCMP anticipates destruction of the PBEDS inventory by Spring 2010. This milestone will mark the completion of all non-stockpile materiel declared upon the United States' Entry Into Force of the Chemical Weapons Convention, an international treaty mandating the destruction of our nation's chemical warfare.



Operations are monitored from the Pine Bluff Explosive Destruction System command post to ensure the safety of its personnel.